

## CLAIMS

What is claimed is:

1. In an audio/visual signal distribution system having a digital data generator connected to a transmitter, said transmitter configured to transmit said digital data over a communications link to a receiver, the improvement comprising:
  - a data transmission buffer connected between the digital data generator and the transmitter; and
  - a load distribution logic module connected to the data generator and to the data transmission buffer;wherein the load distribution logic module is configured to control the data rate of the data generator based on occupancy of data in said data transmission buffer.
2. An improved audio/visual system as recited in claim 1, wherein said data transmission buffer has an occupancy level when the data rate is greater than the available bandwidth over the communications link.
3. An improved audio/visual system as recited in claim 2, wherein said data transmission buffer empties when the available bandwidth over the communications link is greater than the data rate.
4. An apparatus for adaptive bandwidth allocation in an audio/visual distribution system having a digital data generator connected to a transmitter, said transmitter configured to transmit said digital data over a communications link to a receiver, said apparatus comprising:
  - a data transmission buffer configured for connection between the digital data generator and the transmitter; and
  - a load distribution logic module configured for connection to the data generator and to the data transmission buffer;wherein the load distribution logic module is configured to control the data rate of the data generator based on occupancy of data in said data transmission buffer.

5. An apparatus as recited in claim 4, wherein said data transmission buffer has an occupancy level when the data rate is greater than the available bandwidth over the communications link.

6. An apparatus as recited in claim 5, wherein said data transmission buffer empties when the available bandwidth over the communications link is greater than the data rate.

7. A method for adaptive bandwidth allocation in an audio/visual distribution system having a digital data generator connected to a transmitter, said transmitter configured to transmit said digital data over a communications link to a receiver, said method comprising:

- providing a data transmission buffer positioned between the digital data generator and the transmitter;

- providing a load distribution logic module connected to the data generator and to the data transmission buffer; and

- controlling the data rate of the data generator based on occupancy of data in said data transmission buffer.

8. A method as recited in claim 7, wherein said data transmission buffer has an occupancy level when the data rate is greater than the available bandwidth over the communications link.

9. A method as recited in claim 8, wherein said data transmission buffer empties when the available bandwidth over the communications link is greater than the data rate.

10. An audio/visual signal distribution system with adaptive bandwidth allocation, comprising:

- a data generation device;

- a transmitter, said transmitter configured to transmit data from said data

generation device over a communications link to a receiver;

a transmission buffer positioned between the data generation device and the transmitter; and

a load distribution logic module connected to the data generation device and to the transmission buffer;

wherein the load distribution logic controls the data rate of the data generated by the data generation device based on data occupancy level in the transmission buffer.

11. A system as recited in claim 10, wherein said data transmission buffer has an occupancy level when the data rate is greater than the available bandwidth over the communications link.

12. A system as recited in claim 11, wherein said data transmission buffer empties when the available bandwidth over the communications link is greater than the data rate.

13. A system as recited in claim 10, further comprising:  
a prefiltering and spatial/temporal subsampler; and  
a frequency domain quantizer connected to the prefiltering and spatial/temporal subsampler;

wherein the load distribution logic module further includes logic for controlling a coarseness of subsampling by the prefiltering and spatial/temporal subsampler.

14. A system as recited in claim 13, further comprising:  
a motion compensation orthogonal transform module connected between the prefiltering and spatial/temporal subsampler and the frequency domain quantizer.

15. A system as recited in claim 14, further comprising:  
an encoder connected between the frequency domain quantizer and the transmission buffer, the encoder encoding quantized coefficients from the frequency

domain quantizer.

16. A system as recited in claim 15, wherein the quantized coefficients are run-time encoded.

17. A system as recited in claim 15, wherein the quantized coefficients are entropy encoded.

18. A system as recited in claim 15, wherein said transmitter comprises a best-effort transmitter.

19. A method for controlling audio/visual signal distribution, comprising:  
allocating a buffer to a transmitter and a receiver;  
running a channel connected to the buffer in a best effort mode;  
comparing an available bandwidth within the channel to a data generation rate through the channel; and  
based on the comparison, controlling an accumulation of data within the buffer.

20. A method for controlling audio/visual signal distribution, comprising:  
receiving an input signal;  
prefiltering the input signal;  
generating plural quantized coefficients from the input signal, the plural quantized coefficients having a variable coarseness;  
encoding the plural quantized coefficients;  
transmitting plural encoded quantized coefficients to a transmission buffer;  
monitoring an occupancy level within the transmission buffer;  
increasing the coarseness of the plural quantized coefficients as the occupancy level within the transmission buffer increases; and  
decreasing the coarseness of the plural quantized coefficients as the occupancy level within the transmission buffer decreases.